

BOMSEL et al.
Appl. No. 10/579,921
Atty. Ref.: 3665-180
Amendment
September 11, 2009

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

Claims 1-22. (Cancelled)

23. (Withdrawn – Currently Amended) A method for increasing the fusiogenic capacities of a gamete comprising contacting the gamete with a cyclic peptide of claim 34 comprising the tripeptide forming a binding site of fertilin beta to oocyte integrin.

24. (Withdrawn – Currently Amended) A method for increasing the fusiogenic capacities of a gamete comprising contacting the gamete with a cyclic peptide of claim 36 The method according to claim 23, wherein the tripeptide is X-(Q/D/E)-E, X being an amino acid.

25. (Withdrawn – Currently Amended) A method for increasing the fusiogenic capacities of a gamete comprising contacting the gamete with a cyclic peptide of claim 37 The method according to claim 24, wherein the tripeptide is FEE.

26. (Withdrawn – Currently Amended) A method for increasing the fusiogenic capacities of a gamete comprising contacting the gamete with a multimer of claim 38 The method according to claim 23, wherein said peptide has the following formula :



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wherein X represents an amino acid, m and n are comprised between 0 and 14 and "TriPept" denotes said tripeptide.

27. (Withdrawn – Currently Amended) A method for increasing the fusiogenic capacities of a gamete comprising contacting the gamete with a multimer of claim 40
~~The method according to claim 26, wherein m+n is less than 10, preferably less than or equal to 5.~~

28. (Withdrawn – Currently Amended) The method according to claim 23, wherein the gamete is an oocyte ~~The method according to claim 27, wherein said peptide has the following formula:~~



wherein X is an amino acid.

29. (Withdrawn – Currently Amended) The method according to claim 24,
wherein the gamete is an oocyte ~~The method according to claim 28, wherein X is a small and uncharged amino acid or is selected in the group consisting of A, S or T.~~

30. (Withdrawn – Currently Amended) The method according to claim 25,
wherein the gamete is an oocyte ~~The method according to claim 23, wherein the cyclic peptide is in the form of a multimer.~~

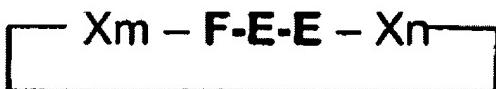
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31. (Withdrawn – Currently Amended) The method according to claim 26,
wherein the gamete is an oocyte~~The method according to claim 23, wherein the gamete~~
~~is an oocyte.~~

32. (Withdrawn – Currently Amended) The method according to claim 27,
wherein the gamete is an oocyte~~The method according to claim 23, intended to improve~~
~~in vitro fertilization.~~

33. (Withdrawn – Currently Amended) A method for treating fertility problems
comprising administering locally in a female genital tract a cyclic peptide according to
claim 34~~The method according to claim 23, intended to improve artificial insemination,~~
~~and/or nuclear transfer in non-human animals.~~

34. (Currently Amended) A cyclic peptide having the following formula :



wherein X represents an amino acid which can be different or identical for each
occurrence,, m is equal to 0 to 14, and n is equal to 0 to 14, and m+n is less than or
equal to 5 are comprised between 0 and 14, a variant or a derivative thereof.

Claim 35. (Canceled)

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36. (Currently Amended) The cyclic peptide according to claim [[35]]34, wherein said peptide has having the following formula :



(SEQ ID NO:17)

where X is an amino acid or is selected [[in]]from the group consisting of A, S or T.

37. (Previously Presented) The cyclic peptide according to claim 36, wherein X is S.

38. (Currently Amended) A multimer of cyclic peptides, said peptides having the following formula :



wherein X represents an amino acid which can be different or identical for occurrence, m is equal to 0 to 14, and n is equal to 0 to 14, and m+n is less than or

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~~equal to 5 are comprised between 0 and 14 and "TriPept" designates the tripeptide X-(Q/D/E) E forming a binding site of fertilin beta to oocyte integrin.~~

Claim 39. (Canceled)

40. (Currently Amended) The multimer according to claim 38, said peptide ~~has~~ having the following formula :



(SEQ ID NO:17) wherein X is an amino acid or is selected [[in]] from the group consisting of A, S or T.

41. (Currently Amended) A composition intended for gamete culture comprising a peptide according to claim 34 or a multimer ~~as defined above~~ according to claim 38.

42. (Withdrawn – Currently Amended) A method for treating fertility problems comprising administering locally in a female genital tract a peptide according to claim [[12]]34 or a multimer ~~as defined above~~.

43. (Withdrawn) A method for screening compounds increasing the fusiogenic capacity of oocytes comprising 1) incubating the oocyte in the presence of the test

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compound; and 2) evaluating the ability of the compound to increase the fusiogenic capacity of the oocyte.

44. (Withdrawn) The method according to claim 43, wherein the ability of the compound to increase the fusiogenic capacity of the oocyte is evaluated by at least one of the following criteria : binding to the oocyte, induction of adhesion protein displacement to the oocyte surface (more particularly of integrin $\alpha 6\beta 1$), fusion of the oocyte with a spermatozoon.